

which has rendered the use of large-scale apparatus practically possible.

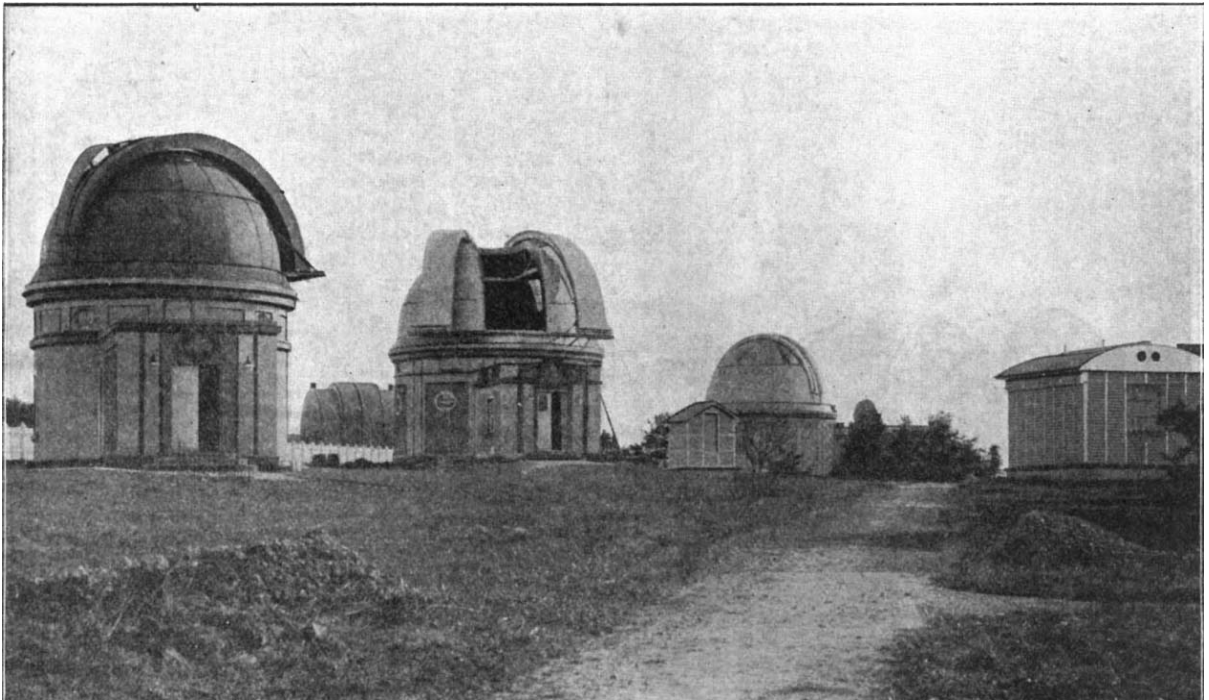
The new observatory will be powerfully equipped. The 10-inch Repsold-Merz equatorial has been moved from Hamburg, and is in working order. A 4-inch Repsold transit instrument remains for the present at Hamburg, and will be moved when the new institution is in a position to take over the time service. This will be the case when the installation of a new Repsold 7½-inch meridian circle is complete. The mounting of this fine instrument will embody the ideas of Sir David Gill. The roof is of iron and in the shape of a half-cylinder, the shutters rolling apart over the east and west ends. The whole is protected from the direct radiation of the sun by a louvred wooden covering. Special arrangements are made to control the instrumental errors. To the south is an adjustable horizontal collimator of the ordinary type; to the north is a lens focussed on the *mire*, which

Dr. R. Schorr, the director, has expressed some disappointment at delays, particularly in completing the optical work. But in an undertaking of this magnitude something of the kind is inevitable, and we can only express admiration of the lines on which Dr. Schorr has designed the new institution, and the energy which is apparent in the progress already made.

H. C. P.

THE ANCIENT INHABITANTS OF THE NILE VALLEY.¹

SOME ten years ago, when Lord Cromer was building up a medical school in Cairo, the task of establishing the department of anatomy was entrusted to a junior fellow of St. John's College, Cambridge, Dr. Elliot Smith. The young professor reached Egypt at an interesting phase of the development of our knowledge of the ancient inhabitants of



Lippert Astrograph.

Meridian Circle.

Reflector.

Mire. Refractor.

Transit Instrument.

FIG. 2.—The Main Buildings of the New Hamburg Observatory.

takes the form of a vertical collimator, as at the Cape Observatory. Still further to the north, on the same meridian, will be placed the 4-inch transit instrument, which will use the same *mire*. The two instruments are thus in line, and an independent check is possible by comparing them directly.

In addition, the observatory will possess a large refractor of 24-inch aperture, a reflector of 40-inch aperture and 10-feet focal length, and a photographic combination. The mounting of the refractor will be by Repsold, and the lens by Steinheil; some delay has been caused by the difficulty in obtaining the discs of suitable quality. The large mirror has been made by Zeiss. For the photographic combination the observatory is indebted to Herr Lippert. It will comprise a telescope of the normal astrographic type, and two short-focus photographic objectives of 12-inch aperture. This work has also been assigned to Zeiss.

that country. It was then becoming clearly recognised, thanks to the labours of Prof. Flinders Petrie and those associated with him, that certain of the burials were older than the dynasties, and that it had become possible to study the Egyptians of a prehistoric or predynastic period.

With the human remains of this ancient period Prof. Elliot Smith was soon brought in contact; in 1901 he had the good fortune to examine the bodies excavated by the Hearst Egyptian exploration of the University of California from a predynastic cemetery at Noga-ed-Deir, in upper Egypt; material which was particularly valuable because of the accurate manner in which it had been dated by Dr. G. A. Reisner. During the following years, amidst the onerous duties

¹ "The Archaeological Survey of Nubia." Report for 1907-8. Vol. ii., Report on the Human Remains, by Drs. G. Elliot Smith, F.R.S., and F. Wood Jones. Pp. 378+vi plans. Plates to accompany Vol. ii., pp. 9+ xlix plates. (Cairo: National Printing Dept., 1910.) Price 2 L.E.

of the medical school and the time absorbed by other lines of research, he found time to examine human remains which could be assigned to definite periods of a long period of Egyptian history, and thus lay the foundation of a knowledge of the physical history of the ancient inhabitants of the Nile valley.

In 1907, when it was resolved to heighten the Aswan dam, an opportunity occurred which allowed him to carry his researches among the ancient inhabitants of Nubia, and to compare them with their contemporaries in Egypt. Very wisely the Egyptian Government resolved to make a complete exploration of the ground which would become submerged when the dam was raised, and it was especially fortunate in the men selected for the task. Captain H. G. Lyons, F.R.S., was director, Dr. G. A. Reisner, archaeologist, Prof. Elliot Smith, anthropologist. The work of exploration was commenced immediately above the dam, and by the month of October, 1907,

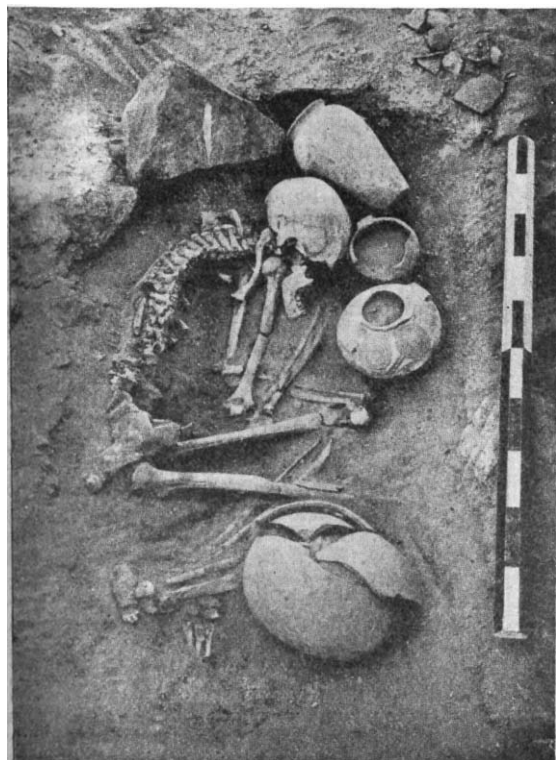


FIG. 1.—Grave 23 I. Burial assigned to the late Predynastic Period.

the remains of more than 2000 individuals, each with its full archaeological history, waited the attention of the anthropologist. With his school duties in Cairo it was clearly impossible for Prof. Elliot Smith to undertake the task of examining these single-handed. By good fortune Dr. Wood-Jones, who had just returned from studying coral formation in the Cocos-Keeling Islands, was appointed to assist Prof. Elliot Smith and carry out observations in the field. During the winter 1907-8 forty-eight cemeteries were explored on both banks of the Nile, extending some eighteen miles above the Aswan dam. At the end of the winter the anthropological staff had made observations on about 6000 individuals, belonging to various periods, dating from predynastic to early Christian times—random samples of a local population through a period of 5000 years. The opportunity was unique; it may never occur again, and it is only just to add that Prof. Elliot Smith and Dr. Wood-Jones

have availed themselves of it to the full. Their splendid records have now been published by the Egyptian Government in a form which deserves warm acknowledgment from archaeologists and anatomists throughout the world. Ever since men began to inquire into the origin of the human species they have turned for light to the valley of the Nile.

In a remarkable opening chapter, Prof. Elliot Smith deals with the living thread of humanity that stretches along the Nile valley and links the negroid population of equatorial Africa with the fairer-skinned millions of Asia and Europe. During the last 6000 years that thread has changed remarkably little in character; at least when the curtain rises on it in predynastic times its composition is altogether modern in type and composed of a comparatively highly civilised community. It is true that in later times the head of the inhabitants becomes broader and the stature taller. Some have regarded the change in physique of the Egyptians as the result of civilisation. Prof. Elliot Smith does not deny that the environment of a higher civilisation may not have had its effect, but is inclined, from the evidence he has been able to adduce, to infer that the changes are to be sought rather (1) from an infiltration of a Levantine race, which entered lower Egypt at an early period and spread up the valley, and (2) from an infiltration of a negro element which entered the valley from the south. This at least is clear that there is a long period of Egyptian

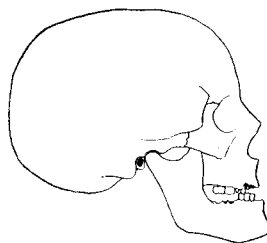


FIG. 2.—Skull of a man showing feminine characters.

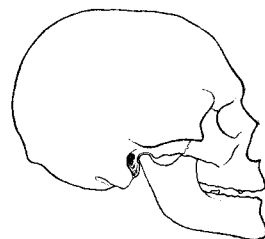


FIG. 3.—Skull of a woman showing masculine characters.

history beyond that which is now termed predynastic. The modern type of man is more than 6000 years old.

Some of the speculations regarding the racial constitution of the ancient Egyptians may prove to have only a passing value, yet the contributions made by Prof. Elliot Smith and Dr. Wood-Jones to certain problems which closely concern anthropologists are certainly of an abiding worth. It seems a comparatively easy thing to distinguish a man from a woman, but when it comes to the sexual and to the age distinction of the skeleton, and especially of the skull, the problem becomes a very difficult one. Dr. Wood-Jones gives accurate tracings of two crania (Figs. 2 and 3); one skull possesses all the characters of a male, but is really that of a woman; the other is that of a man, but has distinct female features. The pelvis, as one would expect, affords the best criteria of sex, and even it may show a certain degree of sexual mixture. Prof. Elliot Smith found by experiment that crania which were "sexed" according to their apparent characters were grouped wrongly to such an extent that the measurements made from such groups gave misleading data. It is very unfortunate that elaborate statistical tables have been prepared from crania which were thus classified. We are glad to note, too, that Prof. Elliot Smith thinks there is a future for anatomical as well as statistical observation in anthropology.

The account given by Dr. Wood-Jones of the physical characters, deformities, and abnormalities of

the ancient Nubians is full, accurate, and interesting, and provides a wealth of data which is quite new. His observations on their diseases and injuries opens a fresh chapter in pathology; for the first time we have a precise knowledge of the ailments and diseases of ancient races. No certain evidence of syphilis was found in Nubia, tuberculosis was extremely uncommon, rickets was unknown, but that chronic disease of joints, rheumatoid arthritis, was extremely common, especially in the predynastic inhabitants. Stone in the bladder and kidney occurred but seldom, but appendicitis evidently occurred, for in the illustration reproduced in Fig. 4, a band of adhesion—signifying a former inflammation of the appendix—is seen to pass across the pelvis of a young woman found in a cemetery of the Byzantine period. Gout was also known; and a sketch by Dr. Wood-Jones shows the basal joint of the big toe of a man loaded with "chalk" stones. Caries of the teeth, so prevalent now amongst European races, was unknown amongst the predynastic Egyptians, but in lower Egypt, it had appeared in the wealthier class by the time of the earlier dynasties. It did not become common until early Christian times in Egypt.

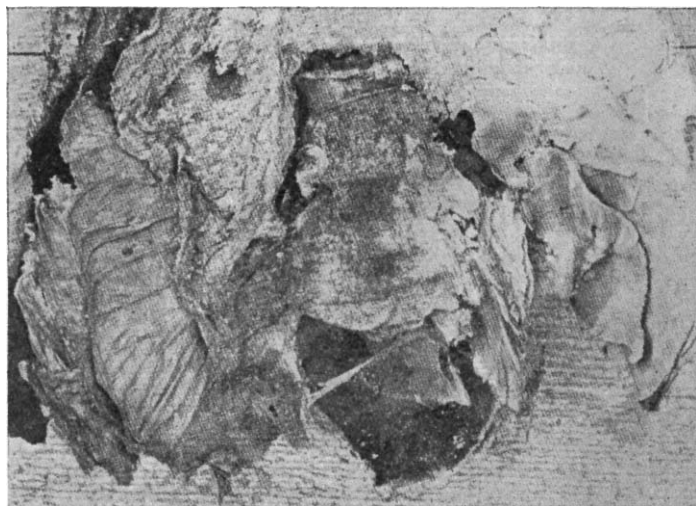


FIG. 4.—Pelvic viscera, showing an adhesive band attached to the appendix from a young woman of the Byzantine period.

There cannot be two opinions of the scientific value of the report prepared by Prof. Elliot Smith and Dr. Wood-Jones; they have made a contribution to our knowledge of racial anatomy and disease, of which the Egyptian Government and English anatomists may well be proud. But it is also clear that this contribution is only a first instalment to a very large and important subject, which must be studied now, otherwise the opportunity will have gone for ever. Both authors have returned to England, and it is greatly to be desired that the Egyptian Government will see that the work they have begun so well will be continued.

THE GERMAN EXCAVATIONS AT BABYLON.

OF all the societies that are engaged in the enormously important scientific work of disinterring the remains of ancient civilisation in the countries of the Near East, probably the most successful, in proportion to the length of time it has been in existence, is the "Deutsch Orient-Gesellschaft." Here, as in other matters, the German has come late upon the scene, but he has made up for his late

appearance, not only by the amount of work he has done, but also by the way he has done it. Armed with ample funds derived from private subscribers, and made conspicuous by the special patronage of the German Emperor, the "Deutsch Orient-Gesellschaft" has carried on, or helped to carry on, excavations in Egypt, Palestine, Mesopotamia, and Asia Minor, which have produced results of the highest importance to the archæologist and to the historian of early civilisation. The excavations of the pyramids of Abusir, in Egypt, which date to the time of the Fifth Dynasty, have given us an entirely new idea of the art and religion of Egypt under the "Old Kingdom"; the disinterment of the ancient ruins of Jericho and Megiddo have made us realise better than before what the Canaanite civilisation was like; the discoveries of Dr. Winckler at Boghaz Kyöi have revealed to us a previously unknown period of the history of the Hittites, and those of Dr. Koldewey and Dr. Andrae at Babylon and Kala'at Shergat (Assur) have enabled us to study the actual ruins of the greatest city of the ancient world and of the oldest capital of Assyria.

The work at Babylon was the first undertaken by the society after its foundation eleven years ago. In March, 1899, work was begun on the Kasr, the "citadel" of Babylon, where are the ruins of Nebuchadnezzar's palace, and where he constructed the famous "Hanging Gardens" to please his Median queen, and make her fancy herself once more among the mountains, trees, and forests of her native land. Here was found an important monument in the shape of a *stela* of a Hittite king, which had been carried off by some Babylonian conqueror, probably from Carchemish. The great walls of the citadel, Imgur-Bel and Nimitti-Bel, have been uncovered, and the long "Processional Way of Marduk," between the two walls of Nimitti-Bel, have been revealed. Near by is the great mound, now called Tell 'Amrân ibn-'Ali, which covers E-sagila, the chief temple of Babylon's chief god, Marduk. And between this and the citadel is a space called *es-Sahn*, "the plate," in which stood a great *ziggurat*—temple called Etemenanki. This building, E-sagila, and the neighbouring temple of Borsippa, compete for the honour of being the legendary "Tower of Babel." Dr.

Koldewey seems to pronounce for the claims of E-sagila and Etemenanki against Borsippa, and has lately announced in an article in the *Berliner Tageblatt* that the excavation of the Tower of Babel "we now aspire to and expect." Whether E-sagila or Etemenanki, or the two together, are the basis of the legendary tower we do not know, but in any case the work will be of the highest interest. The excavations have also uncovered a temple of the god Ninib, E-patutula, and many streets; while the great palace buildings of the citadel, where Belshazzar's feast took place and Alexander died, have been shown to cover up on the river-side the remains of the quay walls built by Sargon and Nabopolassar.

Babylonian architecture was not beautiful, and in this, as in its use of enormous and imposing brick-masses, it reminds us strongly of the architecture of imperial Rome. As the brick at Rome was covered up by marble veneer, so at Babylon the brick wall-faces were often varied by coloured relief brickwork or hidden by coloured glazed bricks arranged in ornamental designs. The Gate of Ishtar at Babylon, discovered by Dr. Koldewey, has splendid decoration of both kinds, showing bulls guarding the gate. The